

83359

Page 1

Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Start Date: 17/04/2012 **Start Qty:** 16.00 ***16***

Cust Item ID:

Required Date: 01/05/2012 **Req'd Qty:** 16.00 ***16***

Customer:

Reference:

Approvals: Process Plan: MLJ Date: 12/04/17

Tooling:

Date:

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3691	Rev D								
100		0.00							
100	BAND SAW					16	Ø		
Bandsaw	Memo	0.00							
Jeaspa Bandsaw	***DO NOT USE CHOP SAW***			Cut blank 7.750" long					
				SA 126110					
110		0.00							
110	DOOSAN LATHE					16	+		
Doosan	Memo	0.00							
Doosan Lathe	1-Turn as per Folio FA716 Rev: HA & Dwg D3691 Rev: B 2-Deburr per dwg D3691 3-Check .625" bore with DT9530 GO/NO GO Gauge								
				SA/R 12.7.1					
160		0.00							
160	QC2- Inspect parts off machine FAI/FAIB								
QC	Memo	0.00				16	+		
Quality Control				SA/R 12.7.1					

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 83359

8.3359

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April-17-12 2:21:45 PM

Item ID: D3691-1

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: STUD

Start Date: 17/04/2012 Start Qty: 16.00

16

Cust Item ID:

Required Date: 01/05/2012 Req'd Qty: 16.00

16

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

170

QC8- Inspect parts - second check

0.00

170

QC

Memo

0.00

SL 12-06-03

Quality Control

100% CHECK,CHECK ALL DIMENSIONS AND THREAD FIT

171

0.00

171

Purchasing

Memo

0.00

Purchasing

Liquid Penetrant Inspection as per QSI 038

Issue P/O: 17380

LPI as per dwg D3691

Attach copy of NDT results to work order

CD 12/07/09 (16)

173

Receive & Inspect for Damage & Mat'l Certs

0.00

173

Packaging

Memo

0.00

Packaging

P 12/1/13 (16)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

Work Order ID 83359

April-17-12 2:21:45 PM

83359

Page 3

Item ID: D3691-1

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: STUD

Start Date: 17/04/2012 Start Qty: 16.00

16

Cust Item ID:

Required Date: 01/05/2012 Req'd Qty: 16.00

16

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

175

QC5- Inspect part completeness to step on W/O

0.00

175

QC

Memo

0.00

Quality Control

16

12-07-09

180

Identify as per dwg & Stock Location: GA

0.00

180

Packaging

Memo

0.00

Packaging

16

12-07-09

190

QC21- Final Inspection - Work Order Release

0.00

190

QC

Memo

0.00

Quality Control

CR 12/7/10

12-07-09

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

Picklist Print

April-17-12 2:21:49 PM

Page 1

Work Order ID: 83359

83359

Parent Item: D3691-1

D3691-1

Parent Item Name: STUD

Start Date: 17/04/2012

Required Date: 01/05/2012

Start Qty: 16.00

Required Qty: 16.00

Comments: IPP Rev:A New Issue 08-01-29 JLM Veriified By:EC
 IPP Rev:B Material Change 09-01-07 JLM Verified By:EC IPP
 REV:C AS PER REV D 10-03-16 JLM VERIFIED BY:EC
 IPP Rev:C Added note on Step 2 09-01-26 JLM Verified By:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M174PH-H900R1.000		Purchased	No				f	75.4800		11.68584			
M174PH-H900R1 000									**			SL 12/6/10	
17-4SS H900 ROUND BAR 1.00													

Location

MAT030

Loc Qty

75.48

Loc Code

117445

1.23

120767

11.75

~~121280~~

62.5

121918

→ 10.5 At

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	83359
Description: Stud		Part Number:	D3691-1
Inspection Dwg: D3691 Rev: D		Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.695	+/-0.010	.695	/		2A-9	W/L
45°	0.5°	45°	/			
0.625	+0.004/-0.000	.625	/			
1.25	+0.000/-0.03	1.235	/			
118°	0.5°	118°	/			
R0.03	+/-0.030	R.03	/			
0.11 Ref	+/-0.030	.11	/			
90°	0.5°	90°	/			
Ø0.189	+0.005/-0.001	.190	/			
1.31	+/-0.030	1.320	/			
1.65	+/-0.030	1.660	/			
0.750	+0.000/-0.010	.747	/			
Ø0.659	+0.000/-0.015	.652	/			
7.625	+/-0.015	7.630	/			
2.90	+/-0.030	2.900	/			
3/4-16UNF-2A	N/A	2A	/			
0.075 x 45°	+/-0.010 x 0.5°	.075	/			
0.375	+0.000/-0.010	.373	/			
Ø0.189	+0.005/-0.001	.190	/			
R0.25	+/-0.030	R.25	/			
R0.50	+/-0.030	R.50	/			

Measured by: *SL*
Date: 12/6/11

Audited by: *SL*
Date: 12-06-03

Prototype Approval: N/A
Date: N/A

Rev	Date	Change	Revised by	Approved
A	09.05.11	New Issue	KJ	
B	09.11.04	Dwg Rev updated	KJ	
C	10.03.31	Dimensions revised per Dwg Rev D	KJ	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 83359 ML

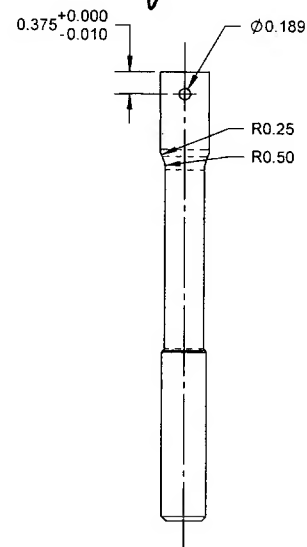
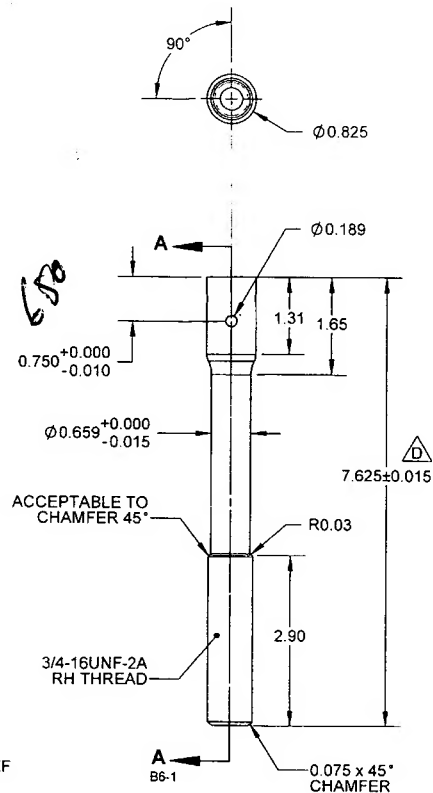
1) MATERIAL: 17-4PH STAINLESS STEEL ROUND BAR PER AMS 5643 H-900 CONDITION
2) FINISH: NONE
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: NONE
7) WEIGHT: 0.81 lb
8) LPI PER QSI 038 4.1.1 (ASTM E1417 LEVEL 2)



SECTION A-A

D4-1

D3691-1 STUD



RELEASE
2010-03-15

D	7.625 WAS 7.750 (ZN C4-1)	RF	10.03.03
C	0.20 WAS 0.16 & CENTER DRILL #4 WAS CENTER DRILL #2 (ZNB6-1); UPDATE NOTE 8 TO REF QSI (A8-1)	RF	09.09.09
B	CHANGE TO 17-4PH H-900(ZN A8-1); Ø.695 WAS Ø.665 (ZN D8-1); REFORMATTED TO CURRENT DWG STANDARDS	RF	08.11.24
A	NEW ISSUE	RF	08.03.12
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D3691 TITLE STUD COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND NOT FOR GENERAL USE. SUPPLIER IS TO RETURN THIS COPY TO COMPANY THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT THE WRITTEN CONSENT OF DART AEROSPACE LTD.	
DRAWN	RF		
CHECKED	<i>[Signature]</i>		
MFG. APPR.	<i>[Signature]</i>		
APPROVED	<i>[Signature]</i>		
DE APPR.	<i>[Signature]</i>	DRAWING NO.	REV. C
DATE	10.03.03	TITLE	SHEET 1 OF 1
		SCALE	NTS

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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NOTE: Date & initial all entries



LIQUID PENETRANT TEST REPORT

P- 12193

CLIENT ANT AERO SPACE DATE July 6-2012 PAGE 1 OF 1
ATTENTION LINDA/ANDY ACUREN JOB NO. 188-12-0278 TIME AM ☒ PM ☐
ADDRESS 1270 ABELEEN ST. HAWKESBURY PO/WO No. (17380) -
ON. WORK LOCATION SAME
ACCEPTANCE STD ASTM 1417/051-038 REV./DATE 2008
PROJECT FPI. on MACHINED PARTS
ITEM(S) EXAMINED RAPPEL'S, STUD'S, SLEEVE'S

JOB DESCRIPTION PROCEDURE NO. LT-002 REV./DATE 2008 TECHNIQUE NO. LT-002 REV./DATE 2008
PART NO. SEE RESULTS MATERIAL STAINLESS STEEL THICKNESS VARIOUS
SCOPE A WET FLUORESCENT LIQUID PENETRANT EXAMINATION
WAS COMPLETED ON SURFACE 100%

TEST DETAILS
METHOD ☒ FLUORESCENT ☐ VISIBLE ☒ WATER WASH ☐ SOLVENT REMOVABLE ☐ POST EMULSIFIED
FAMILY BRAND MAGNAFLUX BLACK LIGHT S/N 16459 ☐ OUTPUT > 1000 μ W/cm² ☐ AMBIENT < 2 fc
PENETRANT 2LG7 MINIMUM DWELL TIME 45 MIN. LIGHTING EQUIP. ☐ FLASHLIGHT ☐ TROUBLELIGHT ☐ OUTPUT > 100 fc @ SURFACE
PENETRANT REMOVER H2O MINIMUM DRY TIME >10 MIN. OTHER LABINO
DEVELOPER SADSS2 MINIMUM DWELL TIME 10 MIN. LIGHT METER S/N 1098866 CAL DUE DATE July 15, 2012
DEVELOPER TYPE ☒ NON AQUEOUS ☐ AQUEOUS ☐ DRY

TEST SURFACE
SURFACE CONDITION ☐ AS GROUND ☐ AS WELDED ☒ MACHINED ☐ SHOT BLASTED ☒ CLEAN BARE METAL
SURFACE TEMPERATURE ☐ < -4°C/ 20°F ☐ -4°C/ 20°F TO 10°C/50°F ☒ 10°C/50°F TO 52°C/125°F ☐ > 52°C/125°F

RESULTS- ☒ METRIC ☐ IMPERIAL

W.O.#	STUD	✓
5 81735	" "	✓
30 81733	" "	✓
16 83359	" "	✓
W.O.#	RAPPEL	✓
5 84719	" "	✓
W.O.#	SLEEVE	✓
15 83358	" "	✓

12 07 09

Scope of Services
The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.

Standard of Care
In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

SIGNATURES
CLIENT REPRESENTATIVE Andy Sheldon PRINT ASheldon SIGNATURE
TECHNICIAN (SIGNATURE): [Signature]
NAME (PRINT): Mike [Signature] 1st TECHNICIAN 2nd TECHNICIAN
CGSB LEVEL 2 SNT LEVEL 6 CGSB LEVEL 6 SNT LEVEL 6
CGSB REG. NO. 6606 CGSB REG. NO. 6606

DTR # E-163666
REPORT REVIEWED BY: [Signature] NAME INITIALS